

GM-04 USER MANUAL

www.plugit.hk/gm



Thank you for purchasing the test board Plugit GM04. This board is made for testing GM tubes, mostly for the SBM20 GM tube but also other tubes which work with similar voltage. A tester is very important since most of the GM tubes offered on Ebay are from old military stock and i have found myself a lot not working tubes, but i was lucky and the supplier exchanged them for me.

The kit comes ready to use, soldering is not required, just connect the usb cable a power source such as a phone charger or the usb port of one computer , press the reset button and it works. **Please do not touch the GM tube or clamshell during operation, this may cause wrong results !**

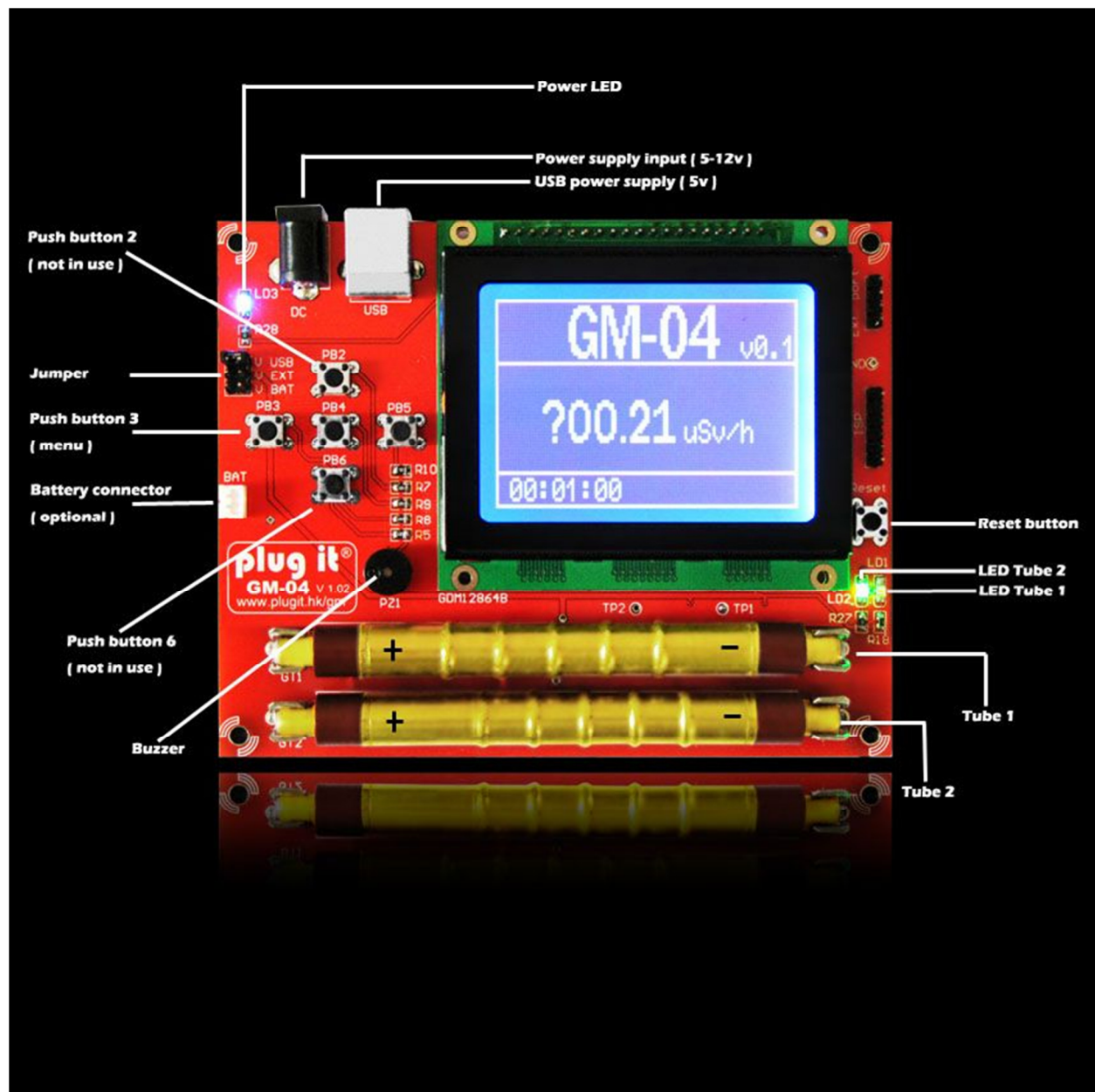
Content of package:

- 1 x GM04 test board with 1 pcs tested SBM-20 tube
- 1 x USB cable
- 1 x User manual

The LCD display



Explanation of buttons, connectors and their functions



Compared with professional dosimeter available on market

The GM04 has the capability to work as a personal dosimeter, we compared it with professional dosimeter, such as Radex RD1706, Gamma Scout, and Terra and we found out that our device shows quite similar results, however, our device is NOT CALIBRATED and we made this device for educational proposes and hobby use.



The usb cable provided is not designed to use it with any software, use it as power supply only!

TECHNICAL SPECIFICATIONS

Physical characteristics:

- Radiation detected: beta and gamma rays
- Detector: SBM-20 (1 pcs)
- Measurement:
 - display the result in μSv or in cpm
 - dose: 0.1 μSv - 9.99 Sv
- Calibration:

this device is not calibrated since it can be operated with different GM Tubes, the default voltage is 440v and if you like to increase the tube voltage you have to change the resistor 16 (R16) according to our formula and you will obtain the voltage required for the tube you like to use or to test

- Audible alarms:

NONE (the mounted buzzer (P21 is NOT ACTIVE, this mean this board does not have any audible signals

- Push-button functions:
 - front panel push-button has the following selectable functions:
 - PB3 and PB5 toggle between dose and cpm display
 - Reset button on the right side
 - PB2 is not in use (button was set for possible additional functions)
 - PB6 is not in use (button was set for possible additional functions)
 - PB4 is not in use (button was set for possible additional functions)

Mechanical characteristics:

- Dimensions: 105 x 130 x 20 mm
- Weight: 135 g including 1 pcs SBM-20 GM tube

Environmental Characteristics:

- Temperature range:
 - 10 oC to +50 oC operational, indoor use only

Electrical characteristics:

- default 5v (500mA) usb power (please use the usb cable included)
- optional external power supply 12v (you must change jumper to use the external power supply)

Optional accessories:

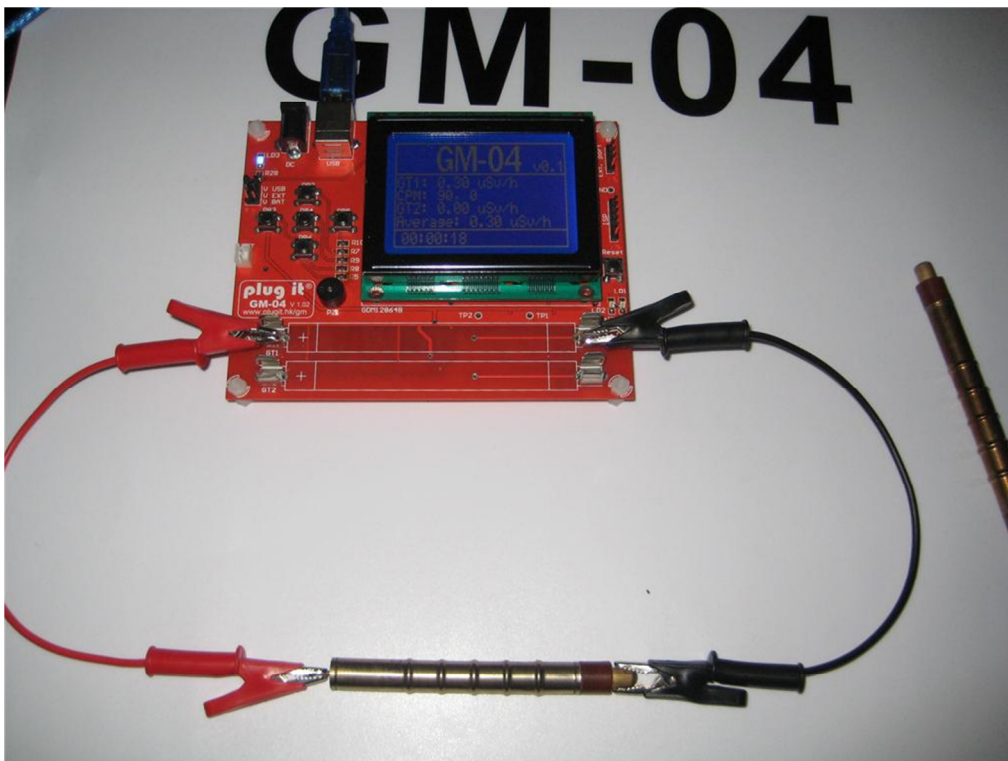
- 1 x SBM-20 GM tube

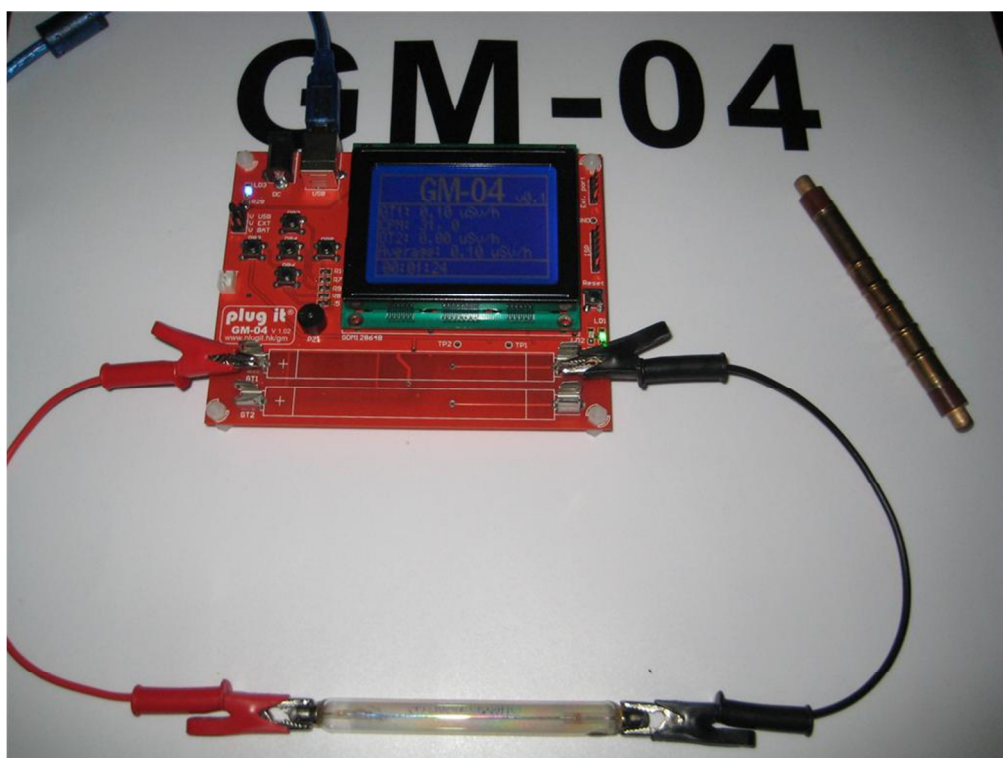
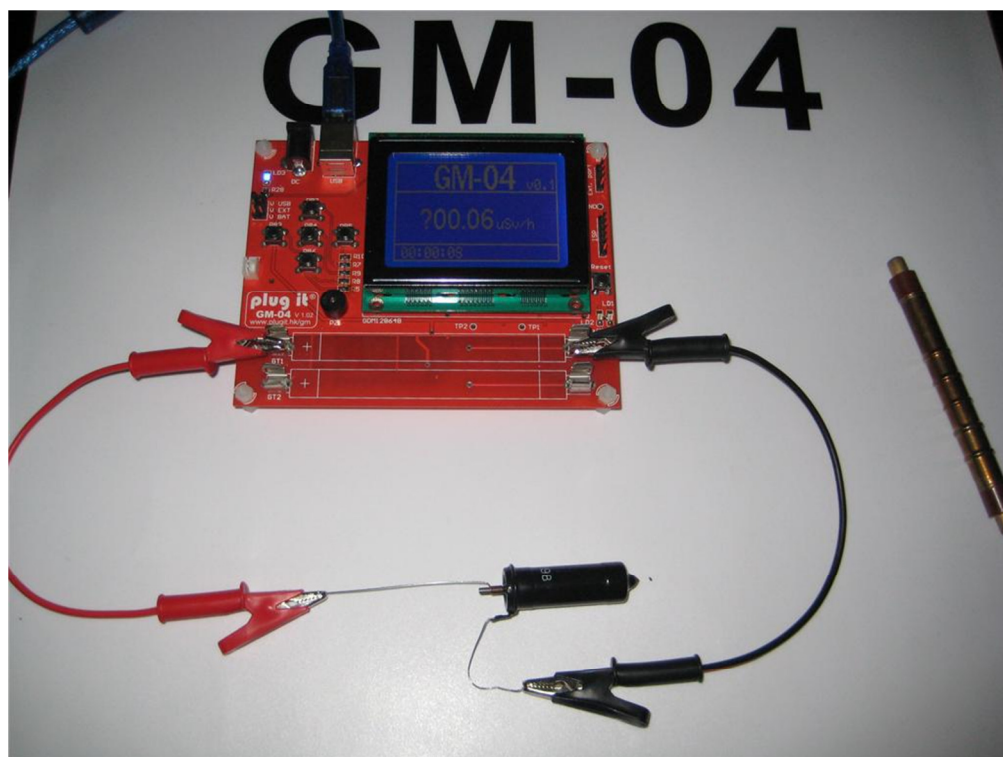


- 1 x set connection cables for different tubes



Here some more examples how to connect other GM tubes





GM-04

